TECHNICAL REVIEW DOCUMENT FOR OPERATING PERMIT 98OPDL206

to be issued to:

Delta Municipal Light and Power
Delta County
Facility ID 0290054
Prepared on
December 10, 1998
by Vince Brindley, Review Engineer

I. Purpose

This document establishes the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during Public Comment and EPA review. Information in this report is primarily from the application received on September 28, 1998. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

On April 16, 1998 the Colorado Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction permits. These procedures are being directly implemented in all operating permits that had not started their Public Comment period as of April 16, 1998. All short term emission and production/throughput limits that appeared in the construction permits associated with this facility that are not required by a specific State or Federal standard or by the above referenced Division procedures have been deleted and all annual emission and production/throughput limits converted to a rolling 12 month total. Note that, if applicable, appropriate modeling to demonstrate compliance with the National Ambient Air Quality Standards was conducted as part of the Construction Permit processing procedures. If required by this permit, portable monitoring results and/or EPA reference test method results will be multiplied by 8760 hours for comparison to annual emission limits unless there is a specific condition in the permit restricting hours of operation.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

II. Source Description

This facility is an electrical generating plant defined under the standard industrial classification code of 4911. Electricity is generated with seven (7) internal combustion engines, three diesel fuel fired and four that burn diesel or a combination of diesel and natural gas (dual-fuel). The facility is located at 1133 Main Street in the city of Delta, Colorado. Delta county is designated as attainment for all criteria pollutants. There are no affected states within 50 miles of the facility. The following Federal Class I areas are located within 100 kilometers of the facility: Weminuche Wilderness Area, Maroon Bells-Snowmass Wilderness Area, Black Canyon of the Gunnison Wilderness Area, and the West Elk Wilderness Area. The facility has certified that they are not subject to the Accidental Release provisions of section 112(r) of the Clean Air Act. Facility wide emissions are as follows:

Pollutant	All Diesel PTE (tpy)	Dual Fuel PTE (tpy)	Facility Actual (tpy)
NOx	853.94	859.40	13.06
VOC	58.45	26.61	0.36
СО	185.72	120.37	1.73
SO_2	56.81	8.67	0.06
PM	61.00	11.32	0.10
PM ₁₀	58.26	10.91	0.10

Potential emissions are based on emissions calculations supplied in the operating permit application. Actual emissions are based upon information supplied in the operating permit application. This source is required to provide an updated APEN for each emission unit in the event that emissions of NOx increase 5% or 50 tons per year and/or CO or VOC increase 5 tons per year above the level reported on the last APEN submitted to the APCD.

III. Emission Sources:

The following sources are specifically regulated under terms and conditions of the Operating Permit for this Site:

Emissions Group E001 - Consisting of the following points:

S003 - One (1) Fairbanks Morse Diesel Fired ICE, M/N 32-E-14, S/N Unknown, Rated at 300 HP.

S004 - One (1) Fairbanks Morse Diesel Fired ICE, M/N 32-E-14, S/N Unknown, Rated at 225 HP.

S005 - One (1) Fairbanks Morse Diesel Fired ICE, M/N 32-E-14, S/N Unknown, Rated at 225 HP.

Discussion:

1. Applicable Requirements-These engines were placed into service in 1936 (S003), 1947 (S004), and 1935 (S005) and have not undergone any modifications since. As such they are considered "grandfathered" from the state Construction Permit requirements and are not permitted. The only applicable requirements are the 30% opacity at start-up standard and the 20% opacity standard for normal operations from Colorado Regulation 1. These engines are exempt from the Regulation 1 process based SO₂ standards as the total facility SO₂ emissions are less than 3 tons per day (Reg. 1, Section VI, Para. A.2.) The source will only be required to calculate actual emissions annually for emissions inventory and fee purposes.

The potential emissions associated with these engines as indicated in the Operating Permit application are as follows:

Pollutant	S003	S004	S005
NOx	31.22	23.42	23.42
VOC	2.14	1.60	1.60
CO	6.79	5.09	5.09
SO_2	2.08	1.56	1.56
PM	2.23	1.67	1.67
PM_{10}	2.13	1.60	1.60

2. Emission Factors-Emissions from reciprocating engines are produced during the combustion process, and are dependent upon the air to fuel ratio adjustment and specific properties of the fuel being burned. The pollutants of concern are Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Volatile Organic Compounds (VOC), Sulfur Dioxide (SO_2), Particulate Matter (PM), and Particulate Matter less than 10 microns (PM_{10}). Small quantities of Hazardous Air Pollutants (PM_1) are also emitted when combustion is incomplete. The source has elected to use emissions factors from AP-42 emission factors. EPA Document 450/4-90-003, Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants (PM_1), essentially places AP-42 data into easily used tables. The emission factors used are:

Pollutant	Emission Factor (lbs/10³ gal)
NOx	469
CO	102
VOC	32.1
SO_2	31.2
PM	33.5
PM_{10}	32

3. Monitoring Plan -Delta Municipal Light and Power will calculate emissions for inventory and fee purposes based on fuel consumption and the above emissions factors. Since the source is using emission factors from EPA documentation (AP-42) and the emissions calculations for this engine are for inventory purposes only there will be no requirement for portable monitoring included in the operating permit.

The source will demonstrate compliance with the 30% opacity standard by performing a Method 9 observation within one (1) hour of the commencement of startup each time the engine start-up period exceeds ten (10) minutes. Compliance with the 20% opacity requirement for normal operations will be demonstrated by quarterly Method 9 observations. Method 9 readings will not be required if the engines are not operated during the year.

4. Compliance Status - The source certified in the application that they were in compliance with all applicable requirements. There were no compliance issues found in a review of the source's master file. The source is believed to be in compliance at this time.

Emissions Group E002 - Consisting of the following points:

S001 - One (1) Fairbanks Morse ICE, Dual Fuel, M/N 33-F-16, S/N 869742, Rated at 1400 HP.

S002 - One (1) Fairbanks Morse ICE, Dual Fuel, M/N 33-D-16, S/N Unknown, Rated at 700 HP.

S006 - One (1) Fairbanks Morse ICE, Dual Fuel, M/N 33-F-16, S/N 924578, Rated at 2000 HP.

S007 - One (1) Fairbanks Morse ICE, Dual Fuel, M/N 31-A-18, S/N 968527, Rated at 3500 HP.

Discussion:

1. Applicable Requirements-These engines were placed into service in 1945 (S001), 1940 (S002),1949 (S006) and 1956 (S007) and have not undergone any modifications since. As such they are considered "grandfathered" from the state Construction Permit requirements and are not permitted. The only applicable requirements are the 30% opacity at start-up standard and the 20% opacity standard for normal operations from Colorado Regulation 1. These engines are exempt from the Regulation 1 process based SO₂ standards as the total facility SO₂ emissions are less than 3 tons per day (Reg. 1, Section VI, A.2.) The source will only be required to calculate actual emissions annually for emissions inventory and fee purposes.

These engines have the capability of burning either diesel fuel or a mixture of diesel fuel and natural gas. The potential emissions in tons per year (tpy), as indicated in the Operating Permit application, associated with these engines operating on diesel only are as follows:

Pollutant	S001	S002	S006	S007
NOx	144.82	72.51	206.86	351.68
VOC	9.91	4.96	14.16	24.07
CO	31.50	15.77	44.99	76.49
SO_2	9.63	4.82	13.76	23.40
PM	10.34	5.18	14.78	25.12
PM_{10}	9.88	4.95	14.11	24.00

The potential emissions in tpy, as indicated in the Operating Permit application, associated with these engines operating on diesel and natural gas are as follows:

Pollutant	S001	S002	S006	S007
NOx	145.91	72.95	208.29	354.19
VOC	3.97	1.99	5.67	9.64
CO	19.31	9.66	27.56	46.87
SO_2	0.65	0.33	0.92	1.58
PM	1.08	0.54	1.53	2.60
PM_{10}	1.05	0.52	1.48	2.53

2. Emission Factors - Emissions from reciprocating engines are produced during the combustion process, and are dependent upon the air to fuel ratio adjustment

and specific properties of the fuel being burned. The pollutants of concern are Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Volatile Organic Compounds (VOC), Sulfur Dioxide (SO₂), Particulate Matter (PM), and Particulate Matter less than 10 microns (PM₁₀). Small quantities of Hazardous Air Pollutants (HAPs) are also emitted when combustion is incomplete. The source has elected to use emissions factors from AP-42. EPA Document 450/4-90-003, <u>Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants</u> (March 1990), essentially places AP-42 data into easily used tables. The emission factors used are:

Pollutant	Diesel Emission Factor (lbs/10 ³ gal)	Natural Gas Emission Factor (lb/MMscf)
NOx	469	3400
CO	102	430
VOC	32.1	82.9
SO_2	31.2	0.6
PM	33.5	10
PM_{10}	32	10

3. Monitoring Plan -Delta Municipal Light and Power will calculate emissions for inventory and fee purposes based on fuel consumption and the above emissions factors. The source will calculate emissions using diesel fuel consumption and natural gas consumption separately and then sum the resulting emissions. Since the source is using emission factors from EPA documentation (AP-42) and the emissions calculations for this engine are for inventory purposes only, there will be no requirement for portable monitoring included in the operating permit.

The source will demonstrate compliance with the 30% opacity standard by performing a Method 9 observation within one (1) hour of the commencement of startup each time the engine start-up period exceeds ten (10) minutes. Compliance with the 20% opacity requirement for normal operations will be demonstrated by quarterly Method 9 observations. Method 9 readings will not be required if the engines are not operated during the year.

4. Compliance Status - The source certified in the application that they were in compliance with all applicable requirements. There were no compliance issues found in a review of the source's master file. The source is believed to be in compliance at this time.

IV. <u>Insignificant Activities</u>

A list of insignificant activities was provided with the application. These items were placed in an appendix in the proposed permit so that they would be of use during inspections. Of specific interest:

- 1. Vehicle storage
- 2. Miscellaneous chemical storage
- 3. Oil and solvent storage
- 4. Herbicide storage
- 5. Nitrogen, Acetylene, and Oxygen storage
- 6. Welding activities
- 7. Machine shop for generator maintenance
- 8. Natural gas heaters (less than 10 MMBTU/hr rating)
- 9. Janitorial supplies
- 10. Battery storage area
- 11. Diesel fuel storage tanks (annual throughput less than 400,000 gallons)
- 12. Landscaping activities

V. Alternate Operating Scenarios

No alternative scenarios were requested in the operating permit application.

VI. Permit Shield

The source did not request any standards for inclusion under the permit shield.

VII. Accidental Release Program - 112(r)

A provision under Part 70 of the Clean Air Act (amended) is the Accidental Release provisions of section 112(r). Under this program, EPA established a list of substances which pose the greatest hazard to humans or extreme harm to the environment. Additionally, a list of flammable substances and high explosives were set forth. Each substance was given a threshold or deminimis level by considering their individual toxicity, reactivity, volatility, flammability, explosiveness, and dispersiveness. Facilities using any of these substances in greater-than-threshold quantities are required to prepare and implement a Risk Management/Prevention Plan for those substances.

This facility has notified the Division in their operating permit application that they are

not subject to the requirements of 112(r) as per 40 CFR 68.3.

Section 112(r) of the Clean Air Act mandates a new federal focus on the prevention of chemical accidents. Sources subject to these provision must develop and implement risk management programs that include hazard assessment, a prevention program, and an emergency response program. They must prepare and implement a Risk Management Plan (RMP) as specified in the Rule.

Section 68.215(e) of the Federal Clean Air Act requires the Division to address four issues in regards to operating permit sources subject to 112(r):

1. Verify source submitted and register an RMP by deadline

EPA is in the process of setting up a Website specifically for 112(r) plans. All 112(r) sources will electronically submit their plans to this "designated central location". The Division will require sources certify in their annual compliance certification that they are/are not subject to 112(r) and they have/have not submitted a Risk Management Plan (RMP) to the designated central location by June 20, 1999. In addition, the Division will check the 112(r) website to verify that a RMP was actually submitted to the website by the deadline. Failure to submit a RMP by the June deadline by sources subject to 112(r) will be considered a permit deviation for reporting purposes under Title V.

2. Verify that source owner/operator has submitted a source certification or in its absence has submitted a compliance schedule.

As mentioned above, the Division will require that sources certify in their annual compliance certification that they are/are not subject to 112(r) and they have/have not submitted a Risk Management Plan (RMP) to the designated central location by June 20,1999. If they are subject to 112(r) but did not submit an RMP on time, a compliance schedule under the provisions of Title V must be submitted to the Division by the source. Failure to submit a RMP or a compliance schedule by the June deadline by sources subject to 112(r) will be considered a permit deviation for reporting purposes under Title V.

3. For some or all sources use one or more mechanisms such as completeness check, source audits, record review, or facility inspections to ensure permitted sources are in compliance with the requirements of this part

The Division may choose to perform any or all of the activities listed under this subsection. Although there is no specific number of such actions required in the 112(r) rule, a June 3, 1997 draft 112(r) implementation guidance from EPA states that "Congress considered a requirement that 1.4 percent of the RMPs be audited annually,

but dropped that provision."

The Division will, at a minimum, perform a "completeness check" on an unspecified number of Title V 112(r) sources. The website that EPA is in the process of developing to accept 112(r) RMP's will include software that will electronically conduct a completeness check on the RMP's. For the purposes of this operating permit, such check shall serve as the completeness check required under 68.215(e)(3). As noted in the Preamble to the final 112(r) rule (June 20, 1996 Federal Register, page 31691), "EPA agrees that the review for quality or adequacy of the RMP is best accomplished by the implementing agency..." In Colorado, the implementing agency is the U.S. EPA. If the EPA website software indicates that a source did not submit a complete plan, it will be considered a permit deviation for reporting purposes under Title V and the Division may initiate an enforcement action for failure to meet the Title V permit condition (see below). Per the Preamble (page 31691), the Division may perform the completeness checks in a time frame consistent with the source's Title V certifications.

4. Initiate enforcement action as necessary

This refers to enforcement under Title V, not under Part 68 (112(r)). If a source fails to file a RMP or a compliance schedule by the June deadline or the EPA software indicates that the RMP is not complete, it will be considered a permit deviation for reporting purposes under Title V and the Division may initiate an enforcement action.